

WHAT IS CLAIMED IS:

1. An apparatus for compressing a Global Positioning System (GPS) signal, comprising:
 - a mixer for removing a carrier component of the GPS signal;
 - 5 a comb filter, coupled to the mixer, for filtering the carrier-removed GPS signal and for obtain a first output comprising filter lines; and
 - a frequency shifter for shifting the filter lines in the first output to produce a compressed GPS signal.
2. The apparatus of claim 1, further comprising a second frequency shifter for shifting the compressed GPS signal to produce a second compressed GPS signal.
3. The apparatus of claim 2, wherein the comb filter filters the carrier-removed GPS signal by receiving a signal from a remote location to the GPS receiver via a wireless communications link, and using the signal from the remote location to shift the comb filter to an expected location of the filter lines of the first output.
4. The apparatus of claim 3, wherein the frequency shifting of the filter lines comprises mixing the filter lines with at least one output of a frequency generator.